

## **Determinants of Healthcare Team Effectiveness in Subterranean Settings: A Mixed-Methods Study**

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**Abstract :** Background: Healthcare professionals working in underground facilities face unique challenges affecting their physical and mental health and team effectiveness. We aimed to examine how an underground work environment affects the physical and mental health and effectiveness of a multi-professional medical team in a medical center under continuous war threats and the contribution of various demographic and professional characteristics. Methods: A cross-sectional survey was disseminated electronically. The questionnaire assessed team effectiveness, the quality of the work, and the health symptoms reported by the team while working in the underground complex. Results: In total, 270 healthcare workers (mean age 40 years, 75.6% females, 88.4% nurses) completed the questionnaire. Women reported statistically significantly higher mean scores of physical strain, fatigue, and eye irritation associated with the work environment compared to men. Multiple regression analysis revealed that psychological distress, noise, and lighting in the underground compound significantly influenced team effectiveness. Conclusions: The underground work environment is crucial in influencing healthcare team effectiveness, with psychological distress, noise, and lighting as key factors. The study highlights the importance of creating a comfortable work environment to foster team efficiency. The findings provide valuable insights for managers in underground healthcare facilities to optimize team performance and well-being.

**Keywords :** team effectiveness, underground settings, healthcare, environmental factors, a mixed-methods study

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